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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/905,593	07/13/2001	Lynn E. Vanatta	25185-P001US/SERIE 5739	3608
35034	7590	10/06/2004	EXAMINER	
JEFFREY L. WENDT, ESQ. 600 TOWN CENTER ONE 1450 LAKE ROBBINS DRIVE THE WOODLANDS, TX 77380			SIEFKE, SAMUEL P	
			ART UNIT	PAPER NUMBER
			1743	

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/905,593

Applicant(s)

VANATTA, LYNN E.

Examiner

Samuel P Siefke

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9,23,24,28 and 29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9,23-24,28,29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims **1-9, 23-24, 28 and 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over DIONEX, (Determination of Trace Anions in Concentrated Hydrofluoric Acid"; Technical Note 45, pp. 1-11, 1999) in view of Szecsody (USPN 6,706,527).

Dionex teaches a process for the determination of trace anions in concentrated hydrofluoric acid. The process comprises loading a liquid sample comprising the anion (chloride, nitrate, sulfate, and phosphate ions) of interest and an excess of another anion (hydrofluoric acid) onto a concentrator and sample loop by flowing the liquid

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sample there through in a first direction (loading the sample loop fig. 2; concentrator fig. 3); reversing the direction of the flow through the sample loop (fig. 2, by pump) or concentrator (fig. 5); and flowing the eluent stream into a ion chromatograph. A six-port valve is used (fig. 2-5).

Dionex does not teach the analyzer can be a mass spectrometer.

Szecsody teaches an automated fluid analysis process where a mass spectrometer is used to analyze anions of interest in a sample. Szecsody teaches that it is known in the art that one may use HPLC detectors and mass spectrometers to analyze anions in a liquid sample (col. 8, lines 47-53). It would have been obvious to one having an ordinary skill in the art to modify Dionex to use a mass spectrometer to analyze the anions in a liquid sample because it is an equivalent standard in the art of fluid analysis of anions.

Response to Arguments

Applicant's arguments filed 7/13/04 have been fully considered but they are not persuasive. Applicant argues, "Dionex teaches a process for the determination of trace anions in concentrated hydrofluoric acid. Hydrofluoric acid is a weak-acid, which means that it doesn't ionize fully in water. It is these neutral, un-ionized species that are retained within the Ion Exclusion preseparator (ICE). It is clearly stated that this ICE unit will have little or no effect on strong-acids. The strong acid ions, such as chloride and sulfate, are excluded and elute as a small peak at approximately nine minutes. The weakly ionized fluoride matrix ions are retained and elute as a large peak." (Top Right

Paragraph, Page 4) One of ordinary skill in the art would recognize that this Dionex Technical Note teaches a process that is only useful to analyze weak-acid solutions. The principle distinguishing feature of this Dionex system is the ICE unit, which would serve no purpose in a strong-acid solution. The anion component of a strong-acid solution are 100% unretained in the ICE column, no matter how dilute or concentrated this strong-acid might be.” The Examiner would like to point out to the Applicant that claim 1 only requires: **1)** loading a liquid sample comprising the anion of interest and an excess of another anion onto a **concentrator or a sample loop**. Dionex comprises **both** concentrator and sample loop. Looking at figure 4, the sample loop and concentrator on the right is loaded with a sample containing an anion (chloride, nitrate, sulfate and phosphate, etc.) of interest and an excess of another ion (fluoride ion). The concentrator column is placed in line with the ICE column and the portion from 7 to 12 minutes is captured on the concentrator column (page 4); **2)** reversing the direction of flow through the means to form an eluent stream. This occurs in figure 5, when after 12 minutes, the 4mm AG-9HC concentrator is placed in-line with the 2mm AS9-HC analytical column set and the concentrated ions are separated. This time window ensures the preconcentration of all the chloride, nitrate, sulfate, and phosphate with minimal amount of fluoride.

It is also noted that claim 1 does not require the liquid sample to be a weak acid or a strong acid. This limitation is in a dependent claim, specifically claim 3, and the rejection still covers this limitation.

Applicant argues, "Szecsody fails to disclose the use of a mass spectrometer with an ion-exchange chromatography system." This is not disputed. However, it would have been obvious to one having an ordinary skill at the time to modify Dionex to replace the ion chromatograph analyzer with a mass spectrometer because Szecsody teaches that these are equivalent standards in the art of fluid analysis of anions.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

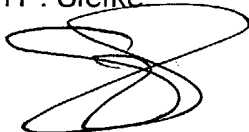
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel P Siefke whose telephone number is 571-272-1262. The examiner can normally be reached on M-F 7:00am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on 571-272-1700. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sam P. Siefke



September 22, 2004


Jill Warden
Supervisory Patent Examiner
Technology Center 1700